

# TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

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December 20, 2007

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor  
Steve Christensen, Team Lead

FROM: Jerriann Ernstsens, Ph.D., Environmental Specialist, Biologist

RE: Dugout Canyon Mine, 560-Acre Extension, Canyon Fuel Company, LLC,  
C/007/0039, Task ID #2873

## **SUMMARY:**

The Division of Oil, Gas and Mining received the Application for the Dugout Canyon 487 Acre Extension. The proposed extension is located in Carbon County, Utah (7.5 Minute USGS Quadrangle map is Mt. Bartles). The proposed extension is located in T13S R13E Sections 16 W1/2 and 17 all but the N1/2N1/2. The surface owners are SITLA and private (Plate 1.1), while the subsurface owners are SITLA and BLM (Plate 5.7). The proposed extension would not include any surface disturbance for facilities.

## **TECHNICAL ANALYSIS:**

## **GENERAL CONTENTS**

### **PERMIT APPLICATION FORMAT AND CONTENTS**

Regulatory Reference: 30 CFR 777.11; R645-301-120.

#### **Analysis:**

The Application does not meet the requirements of R645-301-121.100 and R645-301-121.200 for the biology chapter and archeology sections because there is information that needs clarification. The Permittee also did not follow proper protocol for submitting the archaeology report (R645-301-121.300).

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The MRP includes many different volumes, including Chapter 3 and 4 Volumes and the following "stand-alone" documents (as of September 2005):

- "Dugout Canon Mine – Leach Field Addendum A-1" (LFA, March 2001)
- "Refuse Pile Amendment – Dugout Canyon Mine" (RPA, January 2003)
- "Methane Degasification Amendment" (MDA, 2003/2004).

The "stand-alone" volumes provide exclusive information, supporting documents, and maps for each proposed project. This proposed extension would be incorporated as part of the primary MRP Volumes Chapter 3 and 4 for biology and archaeology, respectively.

**Findings:**

Information provided in the plan does not meet the Permit Application Format and Contents in General Contents requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following and the related deficiency in Vegetation Section of this memo:

**R645-301-121.300**, The Permittee must submit the archaeology report following proper protocol. The Division previously requested that all maps need to be submitted in color that have color-coded keys. This report does not include a map that clearly illustrates a color-coded key.

**REPORTING OF TECHNICAL DATA**

Regulatory Reference: 30 CFR 777.13; R645-301-130.

**Analysis:**

The MRP meets the requirements of R645-301-130 because qualified professionals conducted or directed the surveys and analysis for the supporting biological and archeological resource-related documents.

**Findings:**

Information provided in the plan meets the Reporting of Technical Data in General Contents requirements of the regulations.

## ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

## HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.12; R645-301-411.

### Analysis:

The Application does not meet the requirements of R645-301-411 pertaining to historic resources. The Application includes cultural inventories previously conducted for other projects, and an inventory for this proposed extension area (Senulis 2007).

The 2007 results show that there was one archeological site observed within the surveyed area. The report does not provide a recommendation on eligibility. Although eligibility determinations ultimately come from the Division, this information must be provided in the MRP (R645-301-411.140).

The Division will provide an effect determination after we receive an adequate report.

There is no proof of "coordination efforts ....and clearances" from the SHPO for this extension (R645-301-411.142). The Division may submit, to the SHPO, a finding of "no potential to cause effects" to historic resources within or adjacent to the extension area once we receive an adequate report. The Permittee will submit a copy of the response letter to their Confidential Binder directly in front of the applicable archaeological report upon approval and request of clean copies.

### Findings:

Information provided in the plan does not meet the minimum Environmental -Historic and Archeological Resource Information requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

**R645-301-411.140**, The 2007 results show that there was one archeological site observed within the area surveyed. The report does not provide a recommendation on eligibility. Although DOGM ultimately provides the eligibility determination, this information must be provided in the MRP.

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**R645-301-411.142**, There is no proof of “coordination efforts ....and clearances” from the SHPO for this extension. The Division will most likely submit, to the SHPO, a finding of “no potential to cause effects” to historic resources within or adjacent to the extension area once we receive an adequate report. The Permittee will submit a copy of the response letter to their Confidential Binder directly in front of the applicable archaeological report.

## **VEGETATION RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 783.19; R645-301-320.

### **Analysis:**

The Application meets the requirements of R645-301-321 because there is adequate discussion of plant communities observed within the extension area.

This action would not include any facility or road related surface disturbances, therefore there is no need for a quantitative vegetation survey. The Permittee modified MRP Volume Chapter 3 Plate 3.1 to include this extension area and to provide a more accurate description of the community types. The Permittee derived the additional information from November 2006 aerial photographs.

### **Findings:**

Information provided in the plan meets the Environmental - Vegetation Resource Information requirements of the regulations.

## **FISH AND WILDLIFE RESOURCE INFORMATION**<sub>[Sheila Mo3]</sub>

Regulatory Reference: 30 CFR 784.21; R645-301-322.

### **Analysis:**

#### **GENERAL WILDLIFE**

The Application does not meet the requirements of R645-301-322 because the Application or MRP does not include adequate or applicable narrative, supporting documentation, or maps on wildlife within or adjacent to the extension area.

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The Division projects that there would be minimal subsidence impacts, in general, to the surface because of the geology of the area and depth of the proposed mining. However, there may be high value habitats or species of concern that may require additional surveys, evaluations, agency coordination, or other concentrations.

The archaeology report (Sinulus 2007; SPUT 555) states that there is a salt lick just above the permit area. The DOGM would like more information about this lick – is it natural, man-made, actively being used by domestic or wild animals, and is this lick within the angel of draw? (R645-301-322.220).

### *Ungulates*

DWR has designated the extension area as elk high value yearlong and deer critical summer range and there is habitat for pronghorn in the lower valley.

### *Raptors*

The Permittee supports that the extension includes steeply sloped cliffs (refer to Volume Chap 3 Plates 3.2 and 6.1). This type of cliff habitat is considered critical raptor habitat and may be more susceptible to subsidence impacts than to geology that is more elastic that experience a general ground-lowering effect. The Permittee supports (meeting 2/1/07) that these cliff and adjacent areas could be designated as habitat for raptors.

The Permittee mentions a 2007 flyover raptor report, but did not provide the report with this Application. It is not clear to the Division whether Sections 16 W1/2 and 17 N1/2 were surveyed during the 2007 flyover survey for cliff dwellers. The Permittee must provide the 2007 report (R645-301-322).

There are Douglas fir, mixed conifer or aspen communities at higher elevations that DWR considers as goshawks and northern saw whet owl habitat within or adjacent to the extension area. Annual flyover surveys typically would not be able to detect these or other tree nesters, unless the flyover is conducted in early spring before the tress leaf out. The most effective method to detect these birds is ground calling surveys. For Northern saw-whet owls, the survey should be one or two nights within a 300-meter perimeter of disturbance.

### *Bats*

The Division considers that cliff and tree habitats in the extension area may provide roosting/nesting habitat for bats and other cliff dwellers. The Application does not include additional information on bats or their habitat.

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When the Permittee is required to conduct bat surveys, the Permittee will focus on all Utah sensitive bat species (four for that area) and conduct all bat surveys between May and September. The Division may require surveys for proposed projects that may include subsidence or other possible impacts to foraging habitat or known colony roosting/nursing habitats. The Permittee will consult with the Division if baseline surveys are positive for bats or if operations may significantly impact bat habitat. The Permittee may need to conduct follow up surveys and implement a mitigation project (Vol. 1, Sec. 322, p. 3-17).

JBR Environmental Consultants conducted a bat survey in June 2002 for the Degas Wells MW-6 and -8 (pg. 3; sec. 322.200; amendment withdrew). The amendment paraphrased the results, which showed no observations for TES species. The amendment never included a copy of the report. The Permittee mentioned (personal communications 8/11/03) that the bat survey in 2002 was originally required because Dugout planned to mine under escarpments. The Permittee changed plans and never mined in those areas of concern.

The Permittee conducted a bat survey near the Pace Canyon fan breakout (May 2005; Vol. 3, App. 3-3). The results showed that there were 3,000 calls recorded and that there were at least 7 species of bats. There were no TE species observed, but there was one sensitive species (fringed myotis) observed primarily at a pond near survey site "Stop 7". The results show that the area has a high diversity of bats, which suggests that the area provides sufficient foraging and roosting habitats.

Many of the species of bats in that area probably forage and drink from the perennial areas of Pace Creek, drinking trofts, and springs. They could, however, visit resources (including water) as far as 30 miles away, nightly! It is not uncommon for bats to forage up to 10-15 miles away from roosting areas, but there are a few that limit their travel to around 1 mile. The Division and Permittee should consider that 1) the area is diverse in bat species regardless of survey results, 2) the area provides forage and water resources, and 3) bats could potentially be impacted by mining-related disturbances.

JBR conducted the 2007 bat survey along Pace Creek and drainages above the creek, which included the proposed area for G19. The results were negative for bat responses. JBR supports that there have been bat responses in the area during previous surveys, but cooler temperatures may have limited bat activity during this survey.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL/PLANT SPECIES

The Application meets the requirements of R645-301-322 because the Application or MRP provides applicable and adequate discussion, supporting documentation, and maps on threatened, endangered, and sensitive (TES) species that could occur within or adjacent to the extension area.

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The Carbon County TES list includes Graham Beardtongue, Uinta Basin hookless cactus, bonytail chub, Colorado pikeminnow, humpback chub, razorback sucker, Mexican spotted owl (MSO), black-footed ferret, bald eagle, and western yellow-billed cuckoo (candidate).

All supporting surveys (MRP) on TES plant and animal species show that there were no observations of threatened or endangered species in the areas surveyed.

DWR and Dr. Patrick Collins (Mt. Nebo Scientific) support that it is unlikely that there are animal or plant TE species within the extension area that could be impacted by this action. Dr. Collins projects that the USFS sensitive plant species – canyon sweet vetch may occur within the extension area. The Division considers that subsidence would not likely impact this species' population or habitat because of the type of subsidence (general ground-lowering; meeting 2/1/07) that may occur in their specific habitat type.

### Findings:

Information provided in the plan does not meet the Environmental - Fish and Wildlife Resource Information requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

**R645-301-322.220**, The archaeology report (Sinulus 2007; SPUT 555) states that there is a salt lick just above the permit area. The DOGM would like more information about this lick – is it natural, man-made, actively being used by domestic and wild animals, and is this lick within the angel of draw?

**R645-301-322**, The Permittee mentions a 2007 flyover raptor report, but did not provide the report with this Application. It is not clear to the Division whether Sections 16 W1/2 and 17 N1/2 were surveyed during the 2007 flyover survey for cliff dwellers. The Permittee must provide the 2007 report.

## LAND-USE RESOURCE INFORMATION<sub>[Sheila Mo4]</sub>

Regulatory Reference: 30 CFR 783.22; R645-301-411.

### Analysis:

The Application meets the R645-301-411.100 requirements of the regulations because the Application or MRP narrative describes the land uses and capability of the land and maps (Plate 4-1) illustrate the land uses.

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**Findings:**

Information provided in the plan meets the minimum Environmental - Land-Use Resource Information requirements of the regulations.

**MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION**

[Sheila Mo5]

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

**Analysis:**

**Archeological Site Maps** [Sheila Mo6]

The Application meets the requirements of R645-301-411.141 because there are archeological maps showing known resource locations within the proposed area.

**Cultural Resource Maps**

The Application meets the requirements of R645-301-411.141 because there are cultural maps showing known resource locations within the proposed area.

**Findings:**

Information provided in the plan meets the minimum Environmental - Maps, Plans, and Cross Section Resource Information requirements of the regulations.

**OPERATION PLAN**

**PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES** [Sheila Mo8]

Regulatory Reference: 30 CFR 784.17; R645-301-411.

**Analysis:**

There are no known public parks or historic places within the proposed area.

**Findings:**



Information provided in the plan meets the minimum Operations - Protection of Public Parks and Historic Places requirements of the regulations.

## FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

### Analysis:

The Application meets the requirements of R645-301-333, R645-301-342, or R645-301-358 because it provides information on TES or discussion concerning protection and enhancement plans.

The wildlife exclusionary periods include: raptors (Feb 1 – July 1), deer/elk winter range (Dec 1 – April 15), deer/elk calving (May 15 – July 5), and pronghorn (May – June 20).

The Division requires the Permittee to provide an update on the mitigation plans (two) discussed in Vol. Chap 3, Sec 322.200, pg. 3.24. This brief summary must be included just below the current insertion (R645-301-333).

### *Ungulates*

There is habitat within or adjacent to the permit area for deer and elk. The Permittee will adhere to exclusionary periods when initiating construction and final reclamation projects (R645-301-333).

The Division considers that because there would be a low probability of instantaneous and significant subsidence-related impacts to ungulate-type habitat, there is little likelihood this action would impact elk or deer populations in the area or their habitat (elk high value yearlong and deer critical summer range).

### *Raptors*

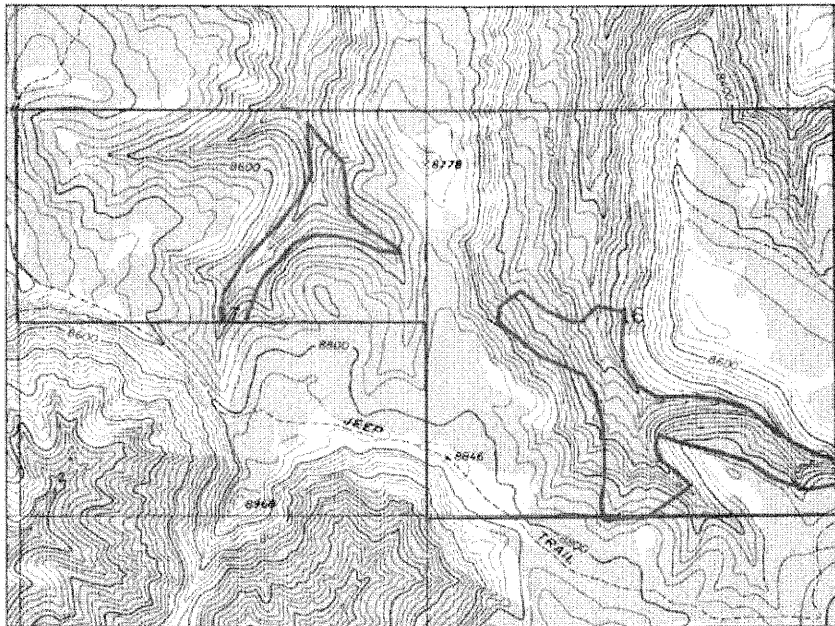
The DWR considers that prior to disturbance of these raptor's habitat type, the Permittee should conduct on the ground calling surveys. This recommendation should be considered project specific and always implemented with consultation among the parties prior to disturbance. The Permittee commits to conducting raptor nest surveys annually in the spring prior to mining activities or potential subsidence within the permit area and to collect baseline data (Vol. Chap 3 Sec 322.200, pg. 3.21). The Permittee has been very diligent about contacting

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DWR concerning goshawks and saw-whet owl nesting habitat and nesting birds prior to possible disturbance.

The Division cannot provide a finding concerning protection measures for possible cliff nesting raptors until the Permittee submits an adequate 2007-flyover survey report (refer to the deficiency in the Environmental Resource section of this memo).

The mature conifer/quaking aspen stand in Sections 16 and 17 (refer to map below; Tony Wright DWR email 12192007) will be undermined in years 2010 and 2011.



The Permittee does not provide information concerning this expansion action and these two stands. The Division considers that the Permittee must provide a protection or mitigation plan for possible tree-nesting raptors that may be impacted by subsidence (R645-301-332, -333).

*Bats*

The Permittee commits to conducting bat surveys along with raptor surveys in cliff habitat before subsidence (Volume Chap 3 pg 3-21). The need for future bat surveys is rather questionable. The Division considers that there would be a need if there is a known cave, abandoned mine, or building that could be impacted by mining-related operations. With these types of habitat, a single impact could be detrimental to an entire colony. Another need may be if there are possible impacts to perennial water supplies. Most likely the need for a survey even

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in this situation is remote. It would probably be best to just monitor the known water supply and mitigate the impact to the source.

The Division, DWR, and Permittee met on October 11, 2007 to discuss the need for bat surveys for this extension. DWR (George Oliver) recommended that there is really no need to conduct surveys for tree- or cliff-roosting bats. DWR considers that there is ample tree- and cliff roosting habitats in the area and that if subsidence occurred the bat would have time to move to safety. Even in the event of instantaneous subsidence, the impact would most likely be to individuals and not large populations of bats.

**Endangered and Threatened Species**[Sheila Mo10]

The Division may consult with USFWS for this extension depending on the Permittee's response to the raptor-related deficiencies. The Permittee did not address whether there would be significant changes in operations that could change the current water consumption calculations. The Division will most likely issue a new set of guidelines that the Permittee must address for this 487-acre extension. (R645-301-330).

**Findings:**

Information provided in the plan does not meet the minimum Operations - Fish and Wildlife Information requirements of the regulations. Prior to approval, the Permittee must act in accordance with the following:

**R645-301-332, -333,** The Permittee does not provide information concerning this expansion action and these two stands. The Division considers that the Permittee must provide a protection or mitigation plan for possible tree-nesting raptors that may be impacted by subsidence.

**R645-301-330,** The Permittee did not address whether there would be significant changes in operations that could change the current water consumption calculations. The Division will most likely issue a new set of guidelines that the Permittee must address for this 487-acre extension.

**R645-301-333,** Although the Permittee already adheres very strictly to exclusionary periods, there is no commitment in the MRP. The Permittee must provide this commitment. As standard operating procedure, the Division will always coordinate the Permittee and DWR to discuss any conflicts that may arise. This commitment must be located in the 333 section of the MRP. • The Division requires the Permittee to provide an update on the mitigation plans (two)

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discussed in Vol. Chap 3, Sec 322.200, pg. 3.24. This brief summary must be included just below the current insertion.

**VEGETATION**<sub>[Sheila Mo11]</sub>

Regulatory Reference: R645-301-330, -301-331, -301-332.

**Analysis:**

The Application meets the requirements of R645-301-330, R645-301-331, and R645-301-332 because the Permittee will disturb the smallest area as possible for facilities, apply interim or contemporaneous reclamation when applicable, and mitigate for subsidence-related impacts.

For the 487-acre extension, there will be no facilities at this time. However, this mine experiences high levels of gases and will most likely need to develop degas wells shortly after they begin mining in this extension area. Vegetations surveys will be required for those well pads and associated roads.

The MRP states in Sections 322.200 (Volume Chapter 3 p. 3-22) and 525 that the Permittee will ground-survey certain areas of the permit area for subsidence and will repair any damage. If there were any impacts observed from coal mining operations such as subsidence that warrants revegetating, Plate 3.1 (Volume Chapter 3), a general description of vegetation communities and condition of the extension area, as well as, the NRCS soil data would provide adequate information to design a mitigation plan.

**Findings:**

Information provided in the plan meets the minimum Operations - Vegetation requirements of the regulations.

**RECOMMENDATIONS:**

Do not approve the amendment.